UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/058,810	04/13/1998	UTE NEGELE	225/44173	7867

7590 11/06/2002

CROWELL & MORING LLP
INTELLECTUAL PROPERTY
P.O.BOX 14300
WASHINGTON, DC 20044-4300

EXAMINER
CHEN, VIVIAN

ART UNIT	PAPER NUMBER
1773	28

DATE MAILED: 11/06/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/058,810	NEGELE ET AL.	
	Examiner	Art Unit	
	Vivian Chen	1773	

-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 August 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 28-54 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *28-54* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. Claims 1-27 have been cancelled by Applicant.

Allowable Subject Matter

2. The indicated allowability of claim 31 is withdrawn in view of the newly discovered reference(s). Rejections based on the newly cited reference(s) follow.

Specification

3. The amendment filed 11/23/2001 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: (1) the newly added limitation precluding compounds that do not undergo a Diels-Alder reaction. Negative limitations to amend claims around the prior art constitute new matter if not supported by the specification. *Ex Parte Grasselli*, 231 USPQ 393.

Applicant is required to cancel the new matter in the reply to this Office action.

Claim Rejections - 35 USC § 112

4. Claims 28-50 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had

possession of the claimed invention for the reasons stated above in the objection under 35 U.S.C. 132 of the amendment filed 11/23/2001. Applicant should point out with specificity any alleged support for the amended claim language.

Claim Rejections - 35 USC § 103

5. Claims 28-30, 32-35, 38-47, 50, 52-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over SUGIO ET AL (US 4,496,695) in view of SACHDEVA (US 5,260,357).

SUGIO ET AL discloses metal substrates coated with corrosion resistant curable coating and/or adhesive compositions, said compositions comprising a polyfunctional maleimide-functionalized compound as recited in claim 30 and other copolymerizable components such as glycidyl epoxy-based resins and polyfunctional cyanate esters, wherein the coating is applied to a substrate by applying the coating composition in the form of a solvent-based solution, followed by curing the coating at temperatures of 50-400 C or with radiation, wherein the coating composition can also contain additives such as catalysts and dispersants (columns 5-6; lines 63-68, col. 8; lines 40-48, col. 9; line 26, col. 10 to line 10, col. 11; lines 55-68, col. 11) as recited in claims 28-30, 32-33, 35, 38-41, 50, 52-54. However, the reference does not explicitly disclose the recited thickness or pre-coating steps.

SACHDEVA discloses that it is well known in the art to clean and degrease metal substrates like aluminum prior to the application of corrosion-inhibiting adhesive primers in order to improve interlayer adhesion (lines 20-32, col. 1) as recited in claim 29, 48.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to adjust the thickness of the coating layer disclosed in SUGIO ET AL as

indicated in claim 34 depending on the adhesive and mechanical properties required by a given usage. It would have been obvious to apply the compositions using conventional types of coating solutions such as solutions, dispersions or emulsions, and to adjust the concentration of the compositions in such forms as indicated in claims 35, 44 depending on the specific coating method and apparatus used. It would have been obvious to apply additional functional coatings such as curable organic adhesion promoters on the metal substrate prior to coating as indicated in claims 42-46 in order to further improve the adhesion of subsequent coatings, and protective or decorative topcoats as indicated in claim 29, 47 in order to improve durability and visibility.

6. Claims 28-30, 32-50, 52-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over LIENERT ET AL (US 5,084,304) in view of SACHDEVA (US 5,260,357).

LIENERT ET AL discloses metal substrates coated with corrosion resistant curable coating compositions, said compositions comprising a polyfunctional bismaleimide compound and other reactive polymeric components such as acrylates and/or styrene, wherein the coating is applied to a substrate by first applying an optional primer coating in solution form, curing the optional primer coat, followed by the application of the bismaleimide-containing coating composition in the form of a solvent-based solution and the curing the said bismaleimide-containing coating at typical temperatures of 200-350 C to form a layer having a typical thickness of 4-23 μm, wherein the coating composition optionally contain additives such as peroxide catalysts and wherein the substrate is aluminum and/or automotive components (lines 13-35, col. 2; line 22, col. 10 to line 22, col. 11; lines 36-41, col. 11; line 50, col. 11 to line 30,

col. 12) as recited in claims 28-30, 32-43, 48-50, 52-54. However, the reference does not explicitly disclose the recited pre-coating steps.

SACHDEVA discloses that it is well known in the art to clean and degrease metal substrates like aluminum prior to the application of corrosion-inhibiting adhesive primers in order to improve interlayer adhesion (lines 20-32, col. 1) as recited in claim 29, 48.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use conventional substrate treatment steps such as pre-cleaning metal substrates prior to applying the coatings of LIENERT ET AL as indicated in claim 29 in order to improve the adhesion of the coatings. It would have been obvious to adjust the concentration of the coating composition as indicated in claims 35, 44 depending on the specific coating method and equipment used, and also to select the curing temperature as indicated in claims 45-46 depending on the specific formulation and catalysts used. One of ordinary skill in the art would have utilized conventional additives such as dispersants as indicated in claim 39 in order to improve the coating characteristics and uniformity of the disclosed composition. It would have been obvious to utilize additional functional coatings such as protective or decorative topcoats as indicated in claim 29, 47 in order to improve durability and visibility.

7. Claims 28-31, 34-35, 38-41, 47-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over SUZAKI ET AL (US 4,548,986) in view of SACHDEVA (US 5,260,357).

SUZAKI ET AL discloses metal substrates having a multilayer coating comprising a corrosion resistant primer coating and a topcoat, said primer containing a polybismaleimide and optional additives, wherein the primer coating is applied to a substrate by applying said primer

coating in solution form, drying and/or baking the optional primer coat at typical temperatures of 80-90 C, followed by the application of a topcoat enamel, wherein the primer has a typical thickness of 5 microns or more (lines 56-60, col. 1; line 28-40, col. 4; lines 27-57, col. 5; Example 1) as recited in claims 28-31, 34, 38-41, 47-48, 50-54. However, the reference does not explicitly disclose the recited pre-coating steps.

SACHDEVA discloses that it is well known in the art to clean and degrease metal substrates like aluminum prior to the application of corrosion-inhibiting adhesive primers in order to improve interlayer adhesion (lines 20-32, col. 1) as recited in claim 29, 48.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use conventional substrate treatment steps such as pre-cleaning metal substrates prior to applying the coatings of SUZAKI ET AL as indicated in claim 29 in order to improve the adhesion of the coatings. It would have been obvious to adjust the concentration of the coating composition as indicated in claim 35 depending on the specific coating method and equipment used. One of ordinary skill in the art would have utilized conventional additives such as dispersants as indicated in claim 39 in order to improve the coating characteristics and uniformity of the disclosed composition. It would have been obvious to apply the disclosed coating system to conventional articles like vehicular components as indicated in claim 49 in order to prevent corrosion. It would have been obvious to utilize additional functional coatings such as protective or decorative topcoats as indicated in claim 29, 47 in order to improve durability and visibility.

8. Claims 28-31, 34-35, 38-41, 47-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over NG (US 5,3778,740) in view of SACHDEVA (US 5,260,357).

NG discloses metal substrates having a corrosion resistant adhesive primer coating and additional layers, said primer containing a polybismaleimide and optional additives such as disperants, wherein the primer coating has a typical solids concentration of 15% or more and is applied to a substrate by applying said primer coating in solution form and allowing to cure at typical temperatures of 176 C, followed by the application of an additional coating and additional layers (lines 15-50, col. 1; lines 52-58, col. 5; lines 55-68, col. 8; column 11; line 36, col. 17 to line 25, col. 18) as recited in claims 28-31, 34, 38-41, 47-54. However, the reference does not explicitly disclose the recited pre-coating steps.

SACHDEVA discloses that it is well known in the art to clean and degrease metal substrates like aluminum prior to the application of corrosion-inhibiting adhesive primers in order to improve interlayer adhesion (lines 20-32, col. 1) as recited in claim 29, 48.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use conventional substrate treatment steps such as pre-cleaning metal substrates prior to applying the coatings of NG as indicated in claim 29 in order to improve the adhesion of the coatings. One of ordinary skill in the art would have adjusted the thickness of the primer layer as indicated in claim 34 depending on the adhesive characteristics required by a given usage. It would have been obvious to apply the disclosed coating system to conventional articles like vehicular components as indicated in claim 49 in order to prevent corrosion. It would have been obvious to utilize additional functional coatings such as protective or decorative topcoats as indicated in claim 29, 47 in order to improve durability and visibility.

Response to Arguments

9. Applicant's arguments filed 8/8/2002 have been fully considered but they are not persuasive.

(A) Applicant argues that the disclosure as originally filed provides implicit support for the negative limitation "which does not undergoes a Diels-Alder reaction", relying upon the Negele declaration. However, while the declaration and Applicant contends that one of ordinary skill in the art would clearly recognize from the specification and the list of preferred compounds with conjugated double bonds are undesirable and to be excluded, the Examiner is not persuaded. It is the Examiner's position that the specification does not clearly provide, either explicitly or implicitly, adequate support for the exclusion of compounds capable of undergoing Diels-Alder reactions, and that one of ordinary skill in the art would not reasonably infer from the disclosure (as originally filed) that such compounds must be avoided, as discussed in detail in paragraph 5(A) in the previous Office Action mailed 5/22/2001, and also in view of EUROPEAN PATENT APPLICATION 0 357 110 A1 which discloses coatings derived from reacting conjugated dienes with polyfunctional maleimide curing compounds.

(B) Applicant argues that SUGIO fails to teach the use of the disclosed coating as a corrosion-inhibiting bond coating. However, SUGIO clearly discloses that the composition is suitable for use as an adhesive layer and coating, in addition to also containing rust-proofing pigments, thereby rendering the composition corrosion-inhibiting.

(C) Applicant argues that LIENART fails to disclose an adhesion conferring and corrosion-inhibiting bond coating. However, LIENART clearly indicates that the disclosed

coating compositions such as those containing polybismaleimide have good anti-corrosion properties as well as adhesion to other layers (lines 25-28, col. 12). Applicant has not provided any probative evidence to indicate that additional functional layers could not be applied to the polybismaleimide-containing topcoat for well known reasons such as layers bearing decorative or warning indicia.

(D) Applicant argues that the Examiner has no basis for statements regarding what is obvious to one of ordinary skill in the art. However, the Examiner has clearly set forth supporting considerations, reasoning, and rationale as to why one of ordinary skill in the art would be motivated to use or select certain specific structural features and/or formulations. Applicant has not provided any probative evidence to the contrary, nor has Applicant provided probative evidence of criticality or unexpected results with respect to various features indicated by Examiner as being obvious to one of ordinary skill in the art (e.g., thickness, presence of additional layers, etc.)

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vivian Chen whose telephone number is (703) 305-3551. The examiner can normally be reached on Monday from 8:30 AM to 6 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau, can be reached on (703) 308-2367. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310 (for non-after finals) and (703) 872-9311 (for after-finals).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

October 31, 2002

Vivian Chen
Primary Examiner
Art Unit 1773